

LHMP

Version

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Welcome to LHMP's documentation!

The Langley-Hampton Multispectral Polarimeter (**LHMP**) is an atmospheric polarimeter built with commercial off-the-shelf components (**COTS**). This codebase provides the resources to capture and correct data captured from the LHMP. This is an open-source Python codebase.

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Usage

Acknowledgements

LHMP is being developed in collaboration with NASA Langley Research Center and the Hampton University.

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Installation

To use LHMP, download the source files from the Repo.

Test the LHMP functionality

TestSample. Run ()

Simple function for inputting camera settings and acquiring images from the LHMP.

Returns :

dictionary of raw image data in digital number along with the image metadata of exposure time (us), gain, acquisition time (UTC), sensor temperature (degC)

Return type :

numpy dictionary

Basic function for capturing samples with the LHMP

CaptureSample. Run (*camera_settings*)

Basic function for capturing samples with the LHMP.

Parameters :

camera_settings (*numpy dictionary*) – dictionary containing the gain and exposure time camera settings as well as the acquisition duration

Returns :

dictionary of raw image data in digital number along with the image metadata of exposure time (us), gain, acquisition time (UTC), sensor temperature (degC)

Return type :

numpy dictionary

API

